DRILL HOLES

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Revised Plans Dated: June 1, 2004

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 24 AND COLGATE DRIVE /OSBORNE PARKWAY IN HARFORD COUNTY. MD 24 IS ASSUMED TO RUN IN A NORTH–SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX–PHASE, FULLY–ACTUATED MODE WITH EXCLUSIVE–PERMISSIVE LEFT TURN PHASES FOR NORTHBOUND AND SOUTHBOUND MD 24 AND SIDE STREET SPLIT PHASING. PEDESTRIAN PHASES WILL REMAIN FOR CROSSING BOTH LEGS OF MD 24.

CONTROLLER REQUIREMENTS

INSTALL VIDEO DETECTION INTERFACE EQUIPMENT AND 2–WIRE CENTRAL CONTROL UNIT INTO THE EXISTING NEMA "6" BASE MOUNTED CABINET.

APS NOTES

TO CROSS MD 24

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS ROCK SPRING AT OSBORNE AND COLGATE."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	DESCRIPTION
LS	MAINTENANCE OF TRAFFIC
2 CY	TEST PIT EXCAVATION
1 EA	2–WIRE CENTRAL CONTROL UNIT
1 EA	VIDEO INTERFACE EQUIPMENT
22 EA	12 INCH LED SIGNAL HEAD SECTION
2 EA	L.E.D. 16 IN. COUNTDOWN PEDESTRIAN
2 EA	AUDIBLE /TACTILE PEDESTRIAN PUSHBUTTON AND SIGN
2 CY	CONCRETE FOUNDATION FOR SIGNAL
1 EA	10 FT. BREAKAWAY PEDESTAL POLE
7 EA	ELECTRICAL HANDHOLE
1 EA	ADJUST EXISTING HANDHOLE TO GRADE
10 LF	1 IN. FLEXIBLE, LIQUID–TIGHT CONDUIT (DETECTOR SLEEVE)
890 LF	3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT – TRENCHED
185 LF	3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT– BORED
200 LF	4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT– SLOTTED
LS	REMOVE AND DISPOSE MATERIAL AND EQUIPMENT
2 EA	VIDEO DETECTION CAMERA AND CABLE
* 1850 LF	12 PAIR VOICE GRADE INTERCONNECT CABLE
340 LF	ELECTRICAL CABLE 2 – CONDUCTOR (NO. 12 A.W.G.)
780 LF	ELECTRICAL CABLE 2 – CONDUCTOR (NO. 14 A.W.G.)
795 LF	ELECTRICAL CABLE 5 – CONDUCTOR (NO. 14 A.W.G.)
2320 LF	ELECTRICAL CABLE 7 – CONDUCTOR (NO. 14 A.W.G.)
800 LF	DISCONNECT, PULL BACK AND REROUTE CABLE
2 EA	3/4 IN. X 10 FT. GROUND ROD
30 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
1 EA	MICRO–LOOP PROBE
1 EA	R3–5L (30" X 36") SIGN – MAST ARM MOUNT
1 EA	R3–6L (30" X 36") SIGN – MAST ARM MOUNT
1 EA	CUT, CLEAN, GALVANIZE AND CAP PEDESTAL POLE
80 LF	24 IN. WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING
555 LF	12 IN. WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING
675 LF	10 IN. WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING
5225 LF	5 IN. WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING
4380 LF	5 IN. YELLOW HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING
8 EA	WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING ARROW
2 EA	WHITE HEAT APPLIED PREFORMED THERMOPLATIC PAVEMENT MARKING "ONLY"
1 EA	R1–2 (36" X 36" X 36") SIGN – GROUND MOUNT
2 EA	OM1–3 (18" X 18") SIGN – GROUND MOUNT
3 EA	W11–2 (30" X 30") SIGN – GROUND MOUNT
3 EA	W16–7P (24" X 12") SIGN – GROUND MOUNT
4 EA	R4–7 (24" X 30") SIGN – GROUND MOUNT
3 EA	R3–7(2)(R) (30" X 42") SIGN – GROUND MOUNT
1 EA	RELOCATE EXISTING GROUND MOUNTED SIGN AND SUPPORTS
55 LF	4 IN. X 6 IN. WOOD SUPPORT
150 LF	4 IN. X 4 IN. WOOD SUPPORT

* THE QUANTITY FOR NEW 12 PAIR VOICE GRADE INTERCONNECT CABLE IS A CONTINGENT ITEM. THE CONTRACTOR SHOULD ATTEMPT TO DISCONNECT, PULL BACK, AND REROUTE EXISTING CABLE.

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787–7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MR. ERIN KUHN
ASSISTANT DISTRICT ENGINEER – TRAFFIC
(410) 321–2781

MR. ANDRE FUTRELL
ASSISTANT DISTRICT ENGINEER – MAINTENANCE
(410) 321–2761

MR. MICHAEL PASQUARIELLO
UTILITY ENGINEER
(410) 321–2841

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787–7630

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787–7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787–7631

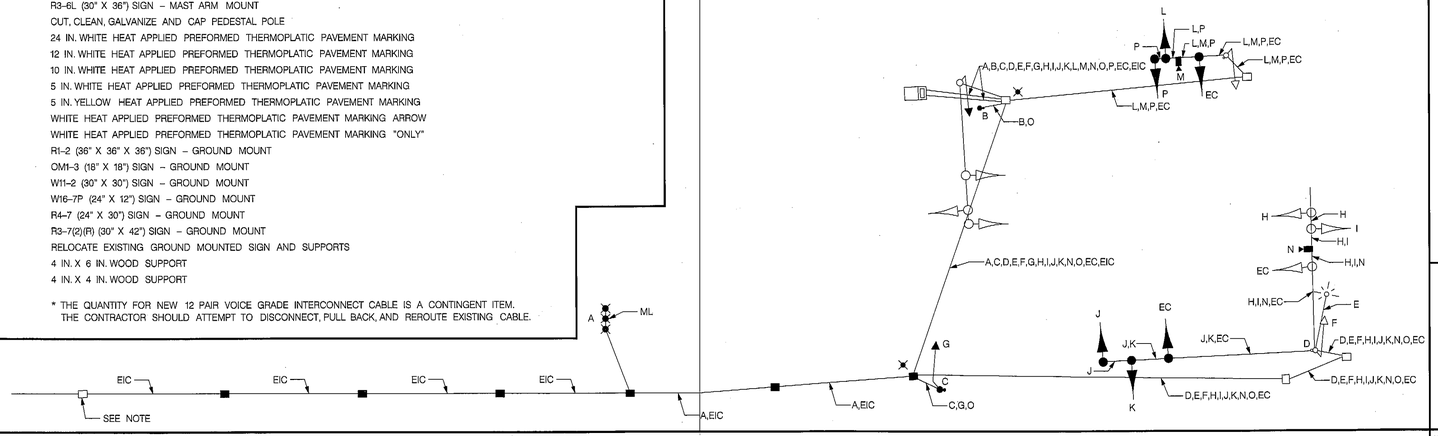
MS. DARLENE EIDE
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787–7669

MR. ED RODENHIZER
CHIEF – SIGNAL OPERATIONS SECTION
(410) 787–7652

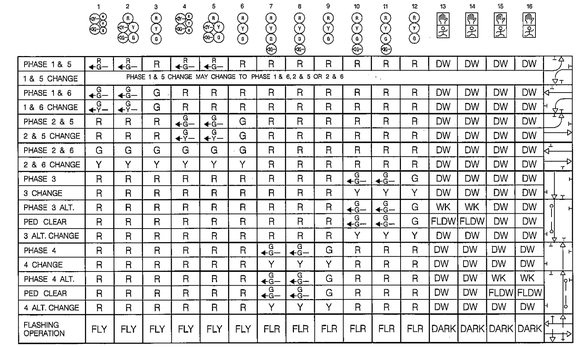
WIRING KEY

A	MICRO–LOOP PROBE LEAD–IN
B–D	2–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	2–CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
F,G	5–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H–L,P	7–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
M,N	VIDEO DETECTION CABLE
O	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
EC	EXISTING CABLE
EIC	EXISTING INTERCONNECT CABLE
ML	MICRO–LOOP PROBE
	GROUND ROD

NOTE: DISCONNECT EXISTING INTERCONNECT CABLE FROM THE EXISTING CONTROLLER AND PULL BACK TO THIS POINT. RE–INSTALL THROUGH NEW CONDUIT TO THE BASE MOUNTED CABINET.



PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 & 5	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 & 5 CHANGE	PHASE 1 & 5 CHANGE MAY CHANGE TO PHASE 1 & 6,2 & 5 OR 2 & 6															
PHASE 1 & 6	R	R	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 & 6 CHANGE	R	R	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	R	R	G	R	R	R	R	R	R	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	R	R	G	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	R	R	G	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW
PHASE 3 ALT.	R	R	R	R	R	R	R	R	R	R	R	G	WK	WK	DW	DW
PED CLEAR	R	R	R	R	R	R	R	R	R	R	R	G	FLDW	FLDW	DW	DW
3 ALT. CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	G	G	G	R	R	R	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW
PHASE 4 ALT.	R	R	R	R	R	R	G	G	G	R	R	R	DW	DW	WK	WK
PED CLEAR	R	R	R	R	R	R	G	G	G	R	R	R	DW	DW	FLDW	FLDW
4 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLR	FLR	FLR	FLR	FLR	FLR	DARK	DARK	DARK	DARK

GENERAL NOTES

1. THESE PLANS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL. SHOULD CONSTRUCTION NOT BEGIN WITHIN THIS TIME FRAME THESE PLANS SHALL BE NULL AND VOID WITHOUT A REVIEW FROM THE TRAFFIC ENGINEERING DESIGN DIVISION.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
3. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, OR THE HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD–816.03, MD 816.01, MD 818.02 AND MD 818.04. THE CONTRACTOR SHALL VERIFY THE ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
4. ALL INTERNAL CABINET WIRING TO BE PERFORMED BY THE SHA SIGNAL SHOP.
5. THE CONTRACTOR SHALL REMOVE ALL UNUSED CABLE.
6. FOR ADDITIONAL SIGNING AND PAVEMENT MARKING SEE PLAN SHEETS _
7. INSTALL CONDUIT AND DETECTION PRIOR TO THE INSTALLATION OF THE PAVEMENT MARKINGS.
8. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT BEING REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE WORK.
9. THE LOCATION OF PROPOSED GEOMETRICS MUST BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT.
10. PUSHBUTTONS ARE TO BE LOCATED SO THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM THE FACE OF THE PUSHBUTTOB TO THE FACE OF THE PUSHBUTTON, NOT CENTER TO CENTER OF POLE
12. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
13. LOCATION OF ACCESSABLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 4E.2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATION UNTIL A DESIGN WAIVER IS OBTAINED, APPPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
14. ALL APS CENTRAL CONTROL UNITS SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR PROGRAMMING AND TESTING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410–787–7650 TO COORDINATE.
15. THE OSBORNE PKWY. PASSAGE DETECTION IS BEING DISCONNECTED AND ABANDONED.

TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite B
Gambrills, MD 21054
(410) 923–7101
FAX: (410) 923–6473
EMAIL: TRAFFIC@TRAFFIC–CONCEPTS.COM

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 24 AND COLGATE DRIVE/ OSBORNE PARKWAY

FOREST HILL, MARYLAND

GENERAL INFORMATION PLAN

SCALE	NONE	DATE	12–11–09
CONTRACT NO.	BW996M82		
DESIGNED BY	T.ZAYDEL	COUNTY	HARFORD
DRAWN BY	T. ZAYDEL	LOGMILE	120240121.82
CHECKED BY	K. SCHMID	T.I.M.S. NO.	K 152
F.A.P. NO.	N/A	TOD NO.	

DRAWING NO. TS–3637B GI–2 | SHEET NO. 3 OF 4

FILE PATH: $FILE$
DATE: $DATE$